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SEQUENCE LISTING

<110> Han, Bomie
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       Smith , Rosamund Carol
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<120> Anti-Myostatin Antibodies

<130> X-16397

<140> PCT/US2005/009307
<141> 2005-03-17

<150> US60/559,621
<151> 2004-04-05

<150> US60/555,456
<151> 2004-03-24

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<170> PatentIn version 3.3

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Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
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Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
                20   25   30

Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35   40   45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50   55   60

Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65   70   75   80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85   90   95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
                100   105   110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115   120   125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser

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130   135   140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145   150   155   160

Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165   170   175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180   185   190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195   200   205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210   215   220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225   230   235   240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
                245   250   255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260   265   270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275   280   285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290   295   300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305   310   315   320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325   330   335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340   345   350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
        355   360   365

Val Asp Arg Cys Gly Cys Ser
    370   375

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<400>   2

Asp Phe Gly Leu Asp Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys
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Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
            20   25   30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
            35   40   45

Phe Val Phe Leu Gln Lys Tyr Pro His Thr His Leu Val His Gln Ala
        50   55   60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
65   70   75   80

Pro Ile Asn Met Leu Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly
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Lys Ile Pro Ala Met Val Val Asp Arg Cys Gly Cys Ser
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Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Ile Ser Tyr Met
            20   25   30

His Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
        50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Leu Thr
            85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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Gln Val Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Leu Gly
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Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val His Tyr Met
                20   25   30

His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr
            35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
        50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
                85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
                20   25   30

His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr
            35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
        50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu

65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
            85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
            20   25   30

His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Val Arg Phe Ser Gly Ser
        50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Arg Asn Pro Leu Thr
            85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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Gln Val Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Ile Ser Tyr Met
            20   25   30

His Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
    50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Leu Thr
                85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
                100   105

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Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Ile Ser Tyr Met
                20   25   30

His Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
    50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Asn Ser Asn Pro Leu Thr
                85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
                100   105

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Gln Val Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Tyr Tyr Met

                    20   25   30

His Trp Tyr Gln Gln Arg Ser Gly Ala Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
    50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Thr Tyr Asn Pro Leu Thr
            85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1   5   10   15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
            20   25   30

His Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr
        35   40   45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
    50   55   60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65   70   75   80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Tyr Ser Asn Pro Leu Thr
            85   90   95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp
            100   105

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1				5				10					15		

Glu	Glu	Val	Thr	Met	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Ile	Asn	Tyr	Met
			20				25					30			

His	Trp	Tyr	Gln	Gln	Lys	Ser	Gly	Thr	Ser	Pro	Lys	Arg	Trp	Ile	Tyr
		35					40					45			

Asp	Thr	Ser	Lys	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser
	50					55					60				

Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Ser	Met	Glu	Ala	Glu
65				70					75						80

Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Trp	Asn	Ser	Asn	Pro	Leu	Thr
				85					90					95	

Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Arg	Ala	Asp
			100					105				

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<400> 12

Gln	Val	Thr	Leu	Lys	Glu	Ser	Gly	Pro	Gly	Ile	Leu	Gln	Ser	Ser	Gln
1				5				10					15		

Thr	Leu	Ser	Leu	Thr	Cys	Ser	Leu	Ser	Gly	Phe	Ser	Leu	Arg	Thr	Ser
			20				25					30			

Gly	Met	Ser	Val	Ser	Trp	Ile	Arg	Gln	Ser	Ser	Gly	Lys	Gly	Leu	Glu
	35					40					45				

Trp	Leu	Ala	His	Ile	Tyr	Trp	Asp	Asp	Asp	Lys	Arg	Tyr	Asn	Pro	Ser
	50					55					60				

Leu	Arg	Asn	Arg	Leu	Thr	Ile	Ser	Lys	Asp	Thr	Leu	Arg	Asn	Gln	Val
65				70					75						80

Phe	Leu	Lys	Ile	Thr	Ser	Val	Gly	Thr	Ala	Asp	Thr	Ala	Thr	Tyr	Tyr
				85					90					95	

Cys	Ala	Arg	Arg	Ala	Ile	Thr	Thr	Val	Ile	Gly	Gly	Gly	Thr	Met	Asp
			100				105					110			

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
            115   120

<210>   13
<211>   124
<212>   PRT
<213>   Mus sp.

<400>   13

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Ser Ser Gln
1   5   10   15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser
            20   25   30

Gly Met Ser Val Ser Trp Ile Arg Gln Ser Ser Gly Lys Gly Leu Glu
            35   40   45

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser
        50   55   60

Leu Arg Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Arg Asn Gln Val
65   70   75   80

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
                85   90   95

Cys Ala Arg Arg Gly Ile Thr Thr Val Leu Gly Gly Gly Thr Met Asp
                100   105   110

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
            115   120

<210>   14
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<400>   14

Gln Val Thr Leu Lys Ser Gly Pro Gly Ile Leu Gln Ser Ser Gln Thr
1   5   10   15

Leu Thr Leu Thr Cys Ser Leu Ser Gly Phe Ser Leu Thr Thr Ser Gly
            20   25   30

Met Ile Val Ser Trp Ile Arg Gln Ser Ser Gly Arg Gly Leu Glu Trp
            35   40   45

Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser Leu
        50   55   60

Page 9

Arg Asn Arg Leu Thr Ile Ser Lys Asp Thr Leu Arg Asn Gln Val Phe
65   70   75   80

Leu Trp Ile Ser Ser Val Gly Thr Ala Asp Thr Ala Thr Tyr Tyr Cys
                85   90   95

Ala Arg Arg Ala Ile Thr Thr Val Ile Gly Gly Gly Thr Met Asp Tyr
            100   105   110

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
        115   120

<210>   15
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<212>   PRT
<213>   Mus sp.

<400>   15

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Ser Ser Gln
1   5   10   15

Thr Leu Ser Leu Thr Cys Ser Val Ser Gly Phe Ser Leu Ser Thr Ser
            20   25   30

Gly Met Ser Val Ser Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
        35   40   45

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser
    50   55   60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Arg Asn Gln Val
65   70   75   80

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
                85   90   95

Cys Ala Arg Arg Ala Ile Thr Thr Val Leu Gly Gly Gly Thr Met Asp
            100   105   110

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
        115   120

<210>   16
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<213>   Mus sp.

<400>   16

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Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Met Leu Gln Ser Ser Gln
1               5               10                  15
```

```
Thr Leu Ser Leu Thr Cys Ser Leu Ser Gly Phe Ser Leu Arg Thr Ser
            20              25              30
```

```
Gly Met Ser Val Ser Trp Ile Arg Gln Ser Ser Gly Lys Gly Leu Glu
        35              40                  45
```

```
Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser
        50              55              60
```

```
Leu Arg Asn Arg Leu Thr Ile Ser Lys Asp Thr Leu Arg Asn Gln Val
65              70              75                      80
```

```
Phe Leu Lys Ile Thr Ser Val Gly Thr Ala Asp Thr Ala Thr Tyr Tyr
                85              90                  95
```

```
Cys Ala Arg Arg Ala Ile Thr Thr Val Ile Gly Gly Gly Thr Met Asp
            100                 105                 110
```

```
Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
            115                 120
```

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<210>   17
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<213>   Mus sp.
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<400>   17
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Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
1               5               10                  15
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```
Thr Leu Ser Leu Thr Cys Ser Leu Ser Gly Phe Ser Leu Arg Thr Ser
            20              25              30
```

```
Gly Met Ser Val Ser Trp.Ile Arg Gln Ser Ser Gly Lys Gly Leu Glu
        35              40                  45
```

```
Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Glu Arg Tyr Asn Pro Ser
        50              ·55             60
```

```
Leu Arg Asn Arg Leu Thr Ile Ser Lys Asp Thr Leu Arg Asn Gln Val
65              70              75                      80
```

```
Phe Leu Lys Ile Thr Ser Val Gly Thr Ala Asp Thr Ala Thr Tyr Tyr
                85              90                  95
```

```
Cys Ala Arg Arg Ala Ile Thr Thr Val Ile Gly Gly Gly Thr Met Asp
```

```
                    100              105                110
```

```
Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
        115                 120
```

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<400> 18

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Ser Ala Ser Ser Ser Ile Ser Tyr Met His
1                   5                   10
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<210> 19
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<400> 19

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Ser Ala Ser Ser Ser Val His Tyr Met His
1                   5                   10
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Ser Ala Ser Ser Ser Val Ser Tyr Met His
1                   5                   10
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<400> 21

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Ser Ala Ser Ser Ser Val Tyr Tyr Met His
1                   5                   10
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<400> 22

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Ser Ala Ser Ser Ser Ile Asn Tyr Met His
1                   5                   10
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Asp Thr Ser Lys Leu Ala Ser
1               5


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Gln Gln Trp Tyr Ser Asn Pro Leu Thr
1               5


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Gln Gln Trp Ser Ser Asn Pro Leu Thr
1               5


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Gln Gln Trp Ser Arg Asn Pro Leu Thr
1               5


<210>  27
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<400>  27

Gln Gln Trp Asn Ser Asn Pro Leu Thr
1               5


<210>  28
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<400>  28

Gln Gln Trp Thr Tyr Asn Pro Leu Thr
1               5
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Gly Phe Ser Leu Arg Thr Ser Gly Met Ser Val Ser
1   5   10

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Gly Phe Ser Leu Ser Thr Ser Gly Met Ser Val Ser
1   5   10

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Gly Phe Ser Leu Thr Thr Ser Gly Met Ile Val Ser
1   5   10

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His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser Leu Arg Asn
1   5   10   15

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His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser Leu Arg Ser
1   5   10   15

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His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser Leu Lys Ser
1   5   10   15

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<400>   35

His Ile Tyr Trp Asp Asp Asp Glu Arg Tyr Asn Pro Ser Leu Arg Asn
1   5   10   15

<210>   36
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<400>   36

Arg Ala Ile Thr Thr Val Ile Gly Gly Gly Thr Met Asp Tyr
1   5   10

<210>   37
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<213>   Mus sp.

<400>   37

Arg Gly Ile Thr Thr Val Leu Gly Gly Gly Thr Met Asp Tyr
1   5   10

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<220>
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<400>   38

Ser Ala Ser Ser Ser Xaa Xaa Tyr Met His
1   5   10

<210>   39
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<213>   Homo sapiens

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<223>  X is Phe or Leu

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<223>  X is Leu or Met

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<220>
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<223>  X is Ala or Gly

<400>  39

Xaa Xaa Gly Leu Asp Cys Asp Glu His Ser Xaa Glu Ser Arg Cys Cys
1                   5                   10                  15


Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
                20                  25                  30
```

```
Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Xaa Cys Glu
        35                  40                  45

Xaa Xaa Phe Xaa Gln Lys Tyr Pro His Thr His Leu Val Xaa Gln Ala
        50                  55                  60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
65                  70                  75                  80

Pro Ile Asn Met Leu Tyr Phe Asn Xaa Lys Xaa Gln Ile Ile Tyr Gly
                85                  90                  95

Lys Ile Pro Xaa Met Val Val Asp Arg Cys Gly Cys Ser
            100                 105
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<210>   40
<211>   109
<212>   PRT
<213>   Homo sapiens

<400>   40
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Asn Leu Gly Leu Asp Cys Asp Glu His Ser Ser Glu Ser Arg Cys Cys
1               5                   10                  15

Arg Tyr Pro Leu Thr Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile
        20                  25                  30

Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Gln Cys Glu
        35                  40                  45

Tyr Met Phe Met Gln Lys Tyr Pro His Thr His Leu Val Gln Gln Ala
        50                  55                  60

Asn Pro Arg Gly Ser Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
65                  70                  75                  80

Pro Ile Asn Met Leu Tyr Phe Asn Asp Lys Gln Gln Ile Ile Tyr Gly
                85                  90                  95

Lys Ile Pro Gly Met Val Val Asp Arg Cys Gly Cys Ser
            100                 105
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<220>
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<223>   X is Ser, Thr, Asn or Gln

<400>   41

His Ile Tyr Trp Asp Asp Asp Xaa Arg Tyr Asn Pro Ser Leu Xaa Xaa
1               5                   10                  15


<210>   42
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Arg Xaa Ile Thr Thr Val Xaa Gly Gly Gly Thr Met Asp Tyr
1               5                   10


<210>   43
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<400>   43

Ala Asn Tyr Cys Ser Gly Glu Ser Glu Phe Val Phe Leu Gln Lys Tyr
1               5                   10                  15


Pro His Thr His Leu Val His Gln Ala
            20                  25


<210>   44
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Pro His Thr His Leu Val His Gln Ala
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